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CHU, KIM KWOK				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/573,835

**Applicant(s)**

MATSUBA, TAKANOBU

**Examiner**

Kim-Kwok CHU

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment filed on 1/7/2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30, 33, 34, 37, 38, 41 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33, 34, 37, 38, 41 and 42 is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2011 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of Prior Art References Cited (PTO-502)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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**Claim Rejections - 35 USC § 112**

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

*The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.*

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 1, line 17, the phrase "the first recording layer" is not clear because the second formatting process is performed on the second recording layer (line 15) instead of the first recording layer. Hence, the claimed second formatting process is considered on the second recording layer for this Office Action.

Regarding Claim 16, the preamble of the claim is directed to "An information recording apparatus" comprises "a recording medium. However, the body of the claim instead of further reciting the recording apparatus, it recites formatting steps. As such, it is not clear whether claim 16 is meant to claim the recording apparatus or is meant to be directed to a recording medium formatting steps. That is, there is simply insufficient structure claimed to perform the recited formatting steps.

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Similarly, regarding dependent Claims 17-30, the claims recite method steps or functioning description of Claim 16. Hence, it is not clear whether the claims are meant to claim the recording apparatus as in Claim 16 or are meant to be directed to a recording medium formatting steps.

The claims not specifically mentioned above are rejected because these claims are dependent on the rejected base claims.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless -  
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.*

4. Claims 1-10, 13 and 15 are rejected under 35 U.S.C. § 102(e) as being anticipated by Sasaki (U.S. Patent 7,164,640).

5. Sasaki teaches a method for recording information to a recording medium having all of the steps as recited in claims 1-10, 13 and 15. Sasaki teaches the following:

Regarding Claim 1, the method having at least a first recording layer 0 and a second recording layer 1 (Fig. 2C),

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the first recording layer having a data area (Fig. 2C; data area is between lead-in and lead-out) comprising an inner side (Fig. 2C; near middle area) located at a radially inner region (close to middle area) of the recording medium and an outer side located at a radially outer region (next to lead-in and lead-out areas) of the recording medium and the second recording layer 1 (Fig. 2C) comprising a data area B'C' (Fig. 3A; the format of the recording medium illustrated in Fig. 2C and 3A are logically compatible) including an inner side located at the radially inner region (next to middle area C'D') of the recording medium and an outer side (next to A'B') located at the radially outer region of the recording medium (Fig. 3A), the method comprising: performing a first formatting process on the data area of the second recording layer 1, the first formatting process comprising formatting the data area of the second recording layer 1 in a series of recording increments (formatting steps), the series (formatting steps) of recording increments progressing from the inner side (near middle area) of the data area of the second recording layer 1 to the outer side (near lead-out area of layer 1) of the data area of the second recording layer 1 (Fig. 2C; column 8, lines 60-67), wherein within each recording increment (each data area) the formatting (recording/writing of dummy data) is performed along a path

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extending from the outer side (medium edge position) of the data area of the second recording layer 1 to the inner side (center position) of the data area of the second recording layer 1 (Fig. 2C; inherent feature where dummy data is written from the center of the medium to the edge of the medium while the addressing/formatting is from low address to high address on layer 1); performing a second formatting process (repeat another background formatting after certain data areas are used to write user data) on the data area of the second recording layer 1 once the first formatting process has been completed (updated the formatted data area), the second formatting process (updated background formatting) being performed along a path extending from the inner side (Fig. 3A; near middle area) of the data area of the first recording layer 1 to the outer side (near lead-out area) of the data area of the first recording layer.

Regarding Claim 2, the recording medium 2 is adapted to be recorded using a laser 4 (Fig. 1), and the first recording layer 0 is the recording layer closest the laser during use (Figs. 1 and 2C; layer 0 is below layer 1 and laser light beam is emitted under layer 0).

Regarding Claim 3, the recording medium is associated with an order of recording user data for each recording layer, and the first recording layer 0 is arranged to be earlier in the

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recording order than the second recording layer 1 (Fig. 3A; user data is recorded in earlier data areas BE).

Regarding Claim 4, recording user data on a data area of the first recording layer 0 (Fig. 2B) along a path extending from the inner side (next to lead-in area) of the data area of the first recording layer 0 to the outer side (next to lead-out area) of the data area of the first recording layer 0 on receipt of a request to record user data (Fig. 2B; data area recorded from regions near lead-in to lead-out areas).

Regarding Claim 5, on receiving a request to record user data, the method comprises recording the user data in priority to the performing the first formatting process or the second formatting process (background formatting).

Regarding Claim 6, resuming the first formatting process after recording the user data if the first formatting process is not complete (background formatting).

Regarding Claim 7, resuming the second formatting process after recording the user data if the first formatting process is complete (background formatting).

Regarding Claim 8, recording predetermined data (dummy data) on the first recording layer 0 at a position immediately after recorded user data on receipt of a request to eject the recording medium (background formatting).

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Regarding Claim 9, recording predetermined data (dummy data) on the second recording layer 1 at a corresponding radial position to the predetermined data on the first recording layer 0 (background formatting).

Regarding Claim 10, recording predetermined data (dummy data) on the second recording layer 1 at the bit inverted addresses to the addresses of the predetermined data on the first recording layer (background formatting).

Regarding Claim 13, on receipt of a request to eject the recording medium, the method further comprises: obtaining a last recorded position of data on the recording medium 2; recording, when formatting has been completed to a position of each recording layer corresponding to the last recorded area, predetermined data at a position immediately after the last recorded position in the recording layer having the last recorded position and at a position immediately after a position corresponding to the last recorded position in each recording layer in which the data is not recorded; and ejecting the recording medium after recording the predetermined data (Figs. 5A and 6; data area excerpt user data BE is formatted).

Regarding Claim 15, the recording medium 2 is an optical disk (Fig. 1).

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***Allowable Subject Matter***

6. Claims 11, 12, 14, 16-30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. Claims 33, 34, 37, 38, 41 and 42 are allowed over prior art.

8. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

Regarding Claim 11, a method for recording information to a recording medium where on receipt of a request to eject the recording medium, if an end position of the user data on the first recording layer is further in the radially outer direction of the recording medium than an end position of formatted data on the second recording layer, then the method further comprises: performing a formatting process on the data area of the second recording layer so as to make the radial position of the end position of formatted data on the second recording layer correspond to the radial position of the end position of the user data on the first recording layer.

Regarding Claim 12, s method for recording information to a recording medium where on receipt of a request to eject the

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recording medium, if an end position of the recording of the user data on the first recording layer is further in the radially outer direction of the recording medium than an end position of formatted data on the second recording layer, then the method further comprises: performing a formatting process on the data area of the second recording layer so as to make the address of the end position of formatted data on the second recording layer be the bit inverted address of the address of the end position of the user data on the first recording layer.

Regarding Claim 14, s method for recording information to a recording medium where on receipt of a request to eject the recording medium, obtaining a last recorded position of data on said recording medium; obtaining a format end position of each recording layer in which the data is not recorded yet; recording dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; recording predetermined data at a position immediately after the recorded dummy data in each recording

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layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and ejecting said recording medium after recording the predetermined data.

Regarding Claim 16, an information recording apparatus for format the data area of the second recording layer of the recording medium according to a first formatting process, said first formatting process comprising formatting said data area of the second recording layer in a series of recording increments, the series of recording increments progressing from the inner side of the data area of the second recording layer to the outer side of the ' data area of the second recording layer, wherein within each recording increment the formatting is performed along a path extending from the outer side of the data area of the second recording layer to the inner side of the data area of the second recording layer; format a data area of the first recording layer of the recording medium according to a second formatting process once the formatting process has been completed, the second formatting process being along a path extending from the inner side of the data area of the first

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recording layer to the outer side of the data area of the first recording layer.

Regarding Claim 33, an information recording and reproducing apparatus where the controller controls an eject process to eject said recording medium from said information recording and reproducing apparatus so as to obtain a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; record, when formatting has been completed to a position of each recording layer corresponding to said last recorded area, predetermined data at a position immediately after said last recorded position in the recording layer having said last recorded position and at a position immediately after a position corresponding to said last recorded position in each recording layer in which the data is not recorded; and eject said recording medium after recording the predetermined data.

Regarding Claim 34, an information recording and reproducing apparatus where the controller controls an eject process to eject said recording medium from said information recording and reproducing apparatus so as to obtain a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; obtain a format end position of each recording layer in which the data is

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not recorded yet; record dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; record predetermined data at a position immediately after the recorded dummy data in each the recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and eject said recording medium after recording the predetermined data.

Regarding Claim 37, an information recording and reproducing apparatus where means for obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; means for recording, when formatting has been completed to a position of each recording layer corresponding to said last recorded area, predetermined data at a position immediately after said last

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recorded position in the recording layer having said last recorded position and at a position immediately after a position corresponding to said last recorded position in each recording layer in which the data is not recorded; and means for ejecting said recording medium after recording the predetermined data.

Regarding Claim 38, an information recording and reproducing apparatus where means for obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; means for obtaining a format end position of each recording layer in which the data is not recorded yet; means for recording dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; means for recording predetermined data at a position immediately after the recorded dummy data in each the recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end

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position in each recording layer in which data is not recorded yet and formatting has completed; and means for ejecting said recording medium after recording the predetermined data.

Regarding Claim 41, a method of controlling an information recording and reproducing apparatus having a step of obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; a step of recording, when formatting has been completed to a position of each recording layer corresponding to said last recorded area, predetermined data at a position immediately after said last recorded position in the recording layer having said last recorded position and at a position immediately after a position corresponding to said last recorded position in each recording layer in which the data is not recorded; and a step of ejecting said recording medium after recording the predetermined data.

Regarding Claim 42, a method of controlling an information recording and reproducing apparatus having a step of obtaining a last recorded position of data on said recording medium when an instruction of ejecting said recording medium is made; a step of obtaining a format end position of each recording layer in which the data is not recorded yet; a step of recording dummy data, when an area from said last recorded position to a position corresponding to said format end position is an unrecorded area

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with respect to one of the recording layers having said last recorded position of the data in accordance with said last recorded position and said format end position, the dummy data being recorded in the area from said last recorded position to the position corresponding to said format end position; a step of recording predetermined data at a position immediately after the recorded dummy data in each the recording layer having said last recorded position of the data, at a position immediately after said format end position in the recording layer having said format end position, and at a position corresponding to said format end position in each recording layer in which data is not recorded yet and formatting has completed; and a step of ejecting said recording medium after recording the predetermined data.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

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***Response to Remarks***

9. Applicant's Remarks filed on January 10, 2011 have been fully considered. Regarding the prior art of Sasaki's Figures 2C and 3A, Applicant considered that they are two different devices (page 18 of the Remarks, last paragraph). Accordingly, although Fig. 2C is a conventional DVD medium as Applicant pointed out. The prior art of Sasaki's Fig. 3C has the same logical structure and compatibility of the Fig. 2C (specification, section 0013).

With respect to the phrase "the second recording layer 1" (page 19 of the Remark, second paragraph) used in the second formatting process in Claim 1, it is not a mixed up as Applicant pointed out but based on the claimed second formatting process which is performed on the second recording layer (Claim 1, last forth lines).

The last Office Action dated October 7, 2010 inadvertently missed the unclear language of both the second recording layer (last forth line) and the first recording layer (last 2 lines) is under a second formatting process and therefore Claim 1 is rejected under the second paragraph of 35 U.S.C. 112.

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10. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen, can be reached on (571) 272-7579.

The fax number for the organization where this application or proceeding is assigned is (571) 273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).

/Kim-Kwok CHU/  
Examiner AU2627  
March 25, 2011  
(571) 272-7585

/William J. Klimowicz/

Primary Examiner, Art Unit 2627